

Landfilling of Poultry Carcasses: Lessons Learned from the Virginia Avian Influenza Outbreak of 2002

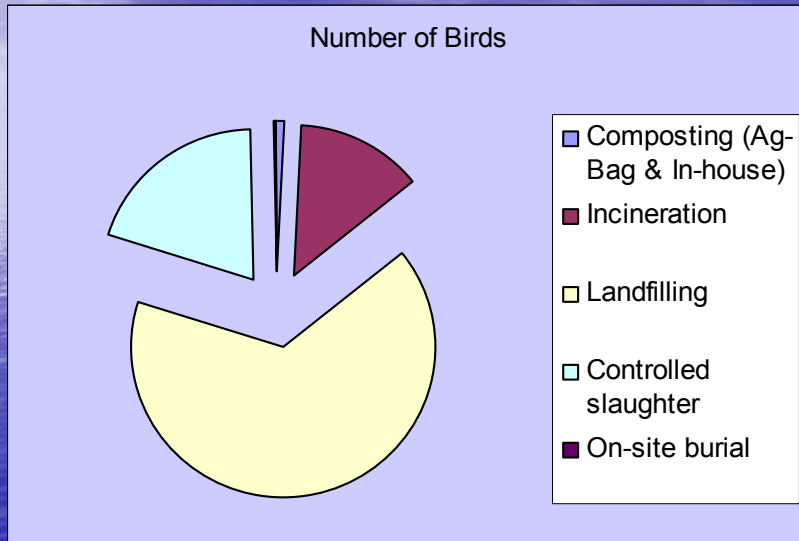
Gary A. Flory, Eric S. Bendfeldt and
Robert W. Peer

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Virginia's Experience

- Low pathogenic AI affected 197 Virginia poultry farms in 2002
- 4.7 million birds destroyed
- 3.1 million birds—13,000 tons—were disposed of in landfills

Disposal Methods



Success requires planning in:

- Securing Landfills
- Transportation
- Communication
- Equipment

Without careful
planning and
execution . . .



Securing Landfills

- Now is the time to negotiate!
- Discuss the difference between low and high path AI
- Proactive media campaign?
- Consider large regional facilities
- Where's the contract?

Transportation



Transportation Issues

- Sealed, leak-proof trailers
- Double-lined containers
- Absorbent material
- Trailer headspace
- Hydraulics



Transportation Issues

- Managing limited trucking resources
 - Identify resources now
 - Load weight restrictions
 - Driver hour restrictions





Communication

Before the first truck arrives:

- C&D crews mobilized
- Transportation routes approved
- Trench constructed
- Bird control established
- Landfill staff ready
- Inspectors on site
- Lighting placed (after hours)
- Stabilizing material (inclement weather)

Communication Tips

- Written communication plan
- Single point of contact between the farm and the landfill

Equipment—24 hours!

- Trench Excavation requires heavy equipment not available at many landfills
 - Track hoe ideal
- Lighting
- Trucking
- Plastic
- C&D equipment
- PPE



Cleaning & Disinfection (C&D) and Personal Protection Equipment (PPE) Considerations



Consider the Costs

Cost of Landfill Disposal

- Trucks \$7,000
- Landfill fees \$ 15,675
- Pay loader \$ 1,200
- Misc. Supplies \$300
- Man hours \$1,000
- Skid Loaders \$400

Total Cost / Farm \$25,575

Cost \$122 per ton

Conclusions

- Carefully managed, landfilling may be successfully used for the disposal of animal carcasses when site conditions limit the use of on-farm disposal methods such as in-house composting.

Resources



Guidelines for Landfilling Poultry Mortality in Response to an Outbreak of Avian Influenza

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Virginia Cooperative Extension

Gary A. Flory¹, Virginia Department of Environmental Quality, gflory@deq.virginia.gov
Eric S. Benfield², Virginia Cooperative Extension, benfield@vc.edu
Robert W. Peet³, Virginia Department of Environmental Quality, robert.peet@deq.virginia.gov

SUMMARY OF THE METHOD

Poultry carcasses are transported to existing industrial solid waste or municipal solid waste landfills for disposal. Strict biosecurity procedures are followed during transportation and disposal.

ADVANTAGES

- Limited environmental impact.
- Landfill collection systems allow for the management of liquids generated from the breakdown of poultry carcasses.
- Quickly removes carcasses from the farm.

DISADVANTAGES

- Biosecurity concerns related to the transportation of carcasses from the farm to the landfill.
- Construction of trenches in the existing solid waste may generate blowing trash and odor.
- Significant cost.
- Landfills do not have to accept the carcasses. Public perception/response may effect a landfill's decision to accept carcasses.

PLANNING PRIOR TO AN OUTBREAK

- Obtain approval/contracts for the disposal of AI-infected carcasses from one or more landfills.
- Identify sources of palletized baggage dump trailers, excavation equipment, portable lighting, stabilizing material, plastic sheeting, PPE, etc.
- Establish and train Rapid Response Teams, with team leaders and alternates, within each poultry complex to oversee sanitation, depopulation, and disposal.
- Provide Rapid Response Teams with respirator fit testing, antiviral, flu shots, etc.
- Prepare worker protection/decontamination plans and purchase necessary equipment.
- Develop a communication plan between the farm and the landfill with a single point of contact to coordinate arrival times and landfill resources.



Figure 1.
Trench excavated into municipal solid waste



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Knowledge for the Commonwealth

Evaluation of Poultry Carcass Disposal Methods Used During an Avian Influenza Outbreak in Virginia in 2002

Gary A. Flory¹, Robert W. Peet², Eric S. Benfield³

INTRODUCTION

In 2002, Virginia Department of Environmental Quality (DEQ) was involved in managing a low pathogenic avian influenza (AI) outbreak in Virginia. A task force comprised of USDA's Animal Plant Health Inspection Service (APHIS), Forest Service, Farm Service Agency, Natural Resources Conservation Service, Virginia's Department of Agriculture and Consumer Services (VDACS), DEQ and the poultry industry worked cooperatively to contain the low pathogenic avian influenza outbreak and prevent its spread.

During this outbreak, carcass disposal became a tremendous obstacle. In April 2002, as many as 40 flocks of AI-positive birds remained in the field while appropriate disposal methods were evaluated and implemented. This report attempts to document the disposal methods that were used and identifies obstacles and recommendations for the application of these methods in the future.

DISPOSAL METHODS

Method: Landfilling

Summary of Method:

After infected birds are euthanized on-site, they are loaded into transport vehicles that are double-lined with polyethylene sheeting, sealed for transport, and thoroughly cleaned and disinfected. Transport vehicles then travel via routes approved by the State Veterinarian from the farm to the landfill. Upon arriving at the landfill, birds are directed away from the active working face and towards the area specified for poultry disposal.

¹ Agricultural and Waste Quality Assessment Manager, Virginia Department of Environmental Quality, Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801 Phone: (540) 574-7840 Fax: (540) 574-7844 Email: gflory@deq.virginia.gov

² Agricultural Program Coordinator, Virginia Department of Environmental Quality, Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801 Phone: (540) 574-7800 Fax: (540) 574-7844 Email: robert.peet@deq.virginia.gov

³ Area Specialist, Community Viability, Virginia Cooperative Extension, 2022 Blue Stone Mills Drive, Suite 140, Harrisonburg, Virginia 22801 Phone: (540) 432-6020 Fax: (540) 432-6251 Email: benfield@vc.edu

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email: [Neil.Zahradka](mailto:Neil.Zahradka@deq.virginia.gov)

Avian Flu Information

The Virginia Department of Environmental Quality has been working with the [Virginia Cooperative Extension Service](#) and Virginia Poultry Disease Task Force to further advance the knowledge and resources available to combat an outbreak of avian flu (AI) in Virginia.

Click on the following links for more information:

- [VA DEQ Disposal Recommendations](#)
- [US EPA Disposal Guidance](#)
- [VA DEQ AI Disposal Presentation to EPA Region 3](#)
- [VA DEQ Solid Waste Program](#)
- [Evaluation of Poultry Carcass Disposal Methods](#)
- [Lessons Learned from Historical AI Outbreaks in Virginia](#)
- [In-House Composting Fact Sheet](#)
- [In-House Composting of Turkeys \(poster\)](#)
- [Static Pile Composting Fact Sheet](#)
- [In-Vessel Composting Fact Sheet](#)
- [In-Vessel Composting Evaluation](#)
- [Landfilling Fact Sheet](#)
- [Biocycle magazine article \(May 2006\)](#)

Resource Links

<http://www.deq.virginia.gov/vpa/AvianFlu.html>

Contacts:

- Gary A. Flory, Agricultural and Water Quality Assessment Manager, Virginia Department of Environmental Quality, Valley Regional Office, Phone: (540) 574-7840 Fax: (540) 574-7844 Email: gaflory@deq.virginia.gov
- Eric Bendfeldt, Community Viability Specialist, Virginia Cooperative Extension, Phone: (540) 432-6029 Fax: (540) 432-6251 Email: ebendfel@vt.edu
- Robert W. Peer, Agricultural Program Coordinator, Virginia Department of Environmental Quality, Valley Regional Office, Phone: (540) 574-7866 Fax: (540) 574-7844 Email: rwpeer@deq.virginia.gov